

May 17, 2002

Colonel David L. Hansen
U.S. Army Corps of Engineers
Norfolk District
803 Front Street
Norfolk, Virginia 23510-1096

Attn: Mac McGlaun
Regulatory Branch

Re: Biological Opinion for Delores
Carrington-Hill, Permit Application #
02-V0042, Northumberland County,
Virginia

Dear Colonel Hansen:

This document transmits the U.S. Fish and Wildlife Service's biological opinion based on our review of the above referenced groin project located in Northumberland County, Virginia and its effects on the northeastern beach tiger beetle (*Cicindela dorsalis dorsalis*), in accordance with section 7 of the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.). This biological opinion is based on information provided in the permit application, telephone conversations, field investigations, and other sources of information. The U.S. Army Corps of Engineers' (Corps) proposed action is to issue a Department of the Army permit to the applicant for the proposed construction activity. A complete administrative record of this consultation is on file in this office.

I. CONSULTATION HISTORY

04/01/02	The Service received the Corps' request to initiate formal consultation.
04/25/02	Letter from Service to the Corps stating that a biological opinion would be provided to the Corps by August 24, 2002.
05/15/02	The Service conducted a site visit.

II. BIOLOGICAL OPINION

DESCRIPTION OF PROPOSED ACTION

This project is located on the Potomac River north of Black Pond in Northumberland County, Virginia.

The address is #33 Riverside Court (Figure 1). The applicant proposes to construct two 56-foot long low profile timber groins 80 feet apart. One groin will extend 32 feet channelward of the mean high water (MHW) and 24 feet landward to the base of the dune, the other will extend 40 feet channelward of MHW and 16 feet landward to the base of the dune. Both groins will be 80 feet from existing groins (Figure 2).

The applicant's shoreline is a 150 foot long, high energy, sandy beach with an average width of 45 feet abutting a vegetated dune. The portion of the applicant's beach containing tiger beetle habitat is approximately 150 feet long by 45 feet wide, depending upon winds and tides. Sandy beaches, with groins every 80 feet and similar to the applicant's shoreline, are located to the north and south of the applicant's beach.

The "action area" is defined as all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action. Groins will accrete sand on one side while causing sand to erode away from the other side to various extent, based on the amount of sand in the system and the direction and strength of wave action. One can estimate the area affected by the groin as approximately the same distance on each side of the groin as the groin extends out into the waterway from MHW (Hill, personal communication). The Service has determined that the action area for this project includes the area between MLW and the toe of the dune on the Carrington-Hill property and approximately 11 feet of that area on the adjacent property to the southeast (Figure 3). This area measures 161 feet long by 45 feet wide and has a total area of approximately 7,245 square feet.

STATUS OF THE SPECIES RANGEWIDE

This information on the status of the northeastern beach tiger beetle was provided to the Corps in a biological opinion dated August 23, 2001 for permit application 00-V1662. That information remains pertinent.

ENVIRONMENTAL BASELINE

Status of the Species Within the Action Area - In 2001, Dr. Barry Knisley documented 765 adult and 110 larval tiger beetles (15.7/transect) on the 792 m stretch of beach immediately north of Black Pond, which is a relatively dense assemblage of both adults and larvae compared to other surveyed sites (Knisley 2001). The applicant has declined to have a survey performed and is willing to assume the presence of the northeastern beach tiger beetle.

Factors Affecting Species Habitat Within the Action Area - Beach erosion and modification, from natural and anthropogenic modifications, affects the habitat at the project site. The beaches in the

vicinity of the action area are very similar in width and relief. Other groins are located on the beaches to the northwest and southeast of the action area. It is unclear what impact this groin field has had on this beach strand in the past.

EFFECTS OF THE ACTION

Direct Effects - Direct impacts to the tiger beetle will result from the crushing of adult beetles, and subsequent injury or death, during construction from use/placement/stockpiling of equipment and materials on the beach and foot traffic within the construction area. Construction will also result in temporary loss of habitat for adults through disruption of their daily activity patterns (*i.e.*, foraging, mating, basking, egg-laying). Larval tiger beetles may be directly affected through crushing, dislodging, and entombment, resulting in death or injury, during construction by use/placement/stockpiling of equipment and materials on the beach and heavy foot traffic within the construction area. Larval beetles may also be prevented from feeding during that time due to their sensitivity to vibrations, movements, and shadows, resulting in injury and potentially death. Existing habitat for adult and larval beetles will be permanently lost within the footprint of the groins between MLW and the landward edge of the beach.

Interrelated and Interdependent Actions - An interrelated activity is an activity that is part of the proposed action and depends on the proposed action for its justification. An interdependent activity is an activity that has no independent utility apart from the action under consultation. No activities interrelated to and interdependent with the proposed action are known at this time.

Indirect Effects - Indirect effects are defined as those that are caused by the proposed action and are later in time, but still are reasonably certain to occur (50 CFR 402.02). Groins are designed to capture sand from long shore movement and will help ensure that a beach continues to exist at this site. However, because groins change the pattern of sand movement, accelerated erosion may occur on adjacent shorelines. It is difficult to determine how and to what extent the proposed groins will affect the adjacent shoreline to the north and south.

Future maintenance of the proposed shoreline stabilization structures may not require Corps' authorization. These activities may result in injury or death to adult and larval tiger beetles through heavy foot traffic on beach areas, use/stockpiling of equipment, and stockpiling/ placement of materials. Maintenance activities may also result in temporary or permanent habitat loss. These activities may result in further impacts to the tiger beetle population at this site.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future state, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future federal actions that are unrelated to the proposed action are not considered in this section because they require separate

consultation pursuant to Section 7 of the ESA. The Service is not aware of any cumulative effects within the action area at this time.

CONCLUSION

After reviewing the current status of northeastern beach tiger beetle throughout its range and in the action area, the environmental baseline for the action area, the effects of the proposed groin, and the cumulative effects, it is the Service's biological opinion that the issuance of a Department of the Army permit for this project, as proposed, is not likely to jeopardize the continued existence of the northeastern beach tiger beetle. No critical habitat has been designated for this species, therefore, none will be affected.

III. INCIDENTAL TAKE STATEMENT

Section 9 of the ESA and federal regulation pursuant to Section 4(d) of the ESA, prohibit the take of endangered and threatened species, respectively, without a special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns such as breeding, feeding, or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns, which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the ESA provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are nondiscretionary, and must be undertaken by the Corps so that they become binding conditions of any permit issued to the applicant, as appropriate, for the exemption in action 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps (1) fails to assume and implement the terms and conditions or (2) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of incidental take, the Corps or applicant must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement.

AMOUNT OR EXTENT OF TAKE

The Service anticipates incidental take of the northeastern beach tiger beetle will be difficult to quantify

and detect because any beetles (adult or larvae) that are killed during project construction, stockpiling of equipment and materials, and habitat loss will be difficult to observe or locate due to their coloring, small body size, and tendency for larvae to remain beneath the surface. However, the level of take of this species can be anticipated by areal extent of the habitat affected. The applicant's 150 foot long shoreline contains appropriate habitat for the northeastern beach tiger beetle in an area approximately 45 feet wide (MLW to the toe of the bank). This incidental take statement anticipates the direct taking of northeastern beach tiger beetles, including death of larval beetles, and permanent loss of habitat in the footprint of the groin, which is approximately 3 feet wide by 45 feet long (135 square feet).

Construction activities, including stockpiling of materials and equipment, and modifications of the beach profile and distribution of sand within this area will result in habitat alteration, temporary habitat loss, and death of larval tiger beetles during the construction year, potentially in the entire extent of the applicant's property, minus above calculated footprint, which equals approximately 6,615 square feet. The Service further anticipates indirect take and temporary or permanent habitat loss resulting from the accretion and erosion of sand on alternate sides of the groins, extending approximately 32 feet to each side of the groin and potentially affecting 1440 square feet.

REASONABLE AND PRUDENT MEASURES

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize take of the northeastern beach tiger beetle:

- o Construction activities must be conducted when adult beetles are not present.
- o Human activity, materials, and equipment on the beach must be minimized to reduce the impact to adult and larval tiger beetles.

TERMS AND CONDITIONS

To be exempt from the prohibitions of Section 9 of the ESA, the Corps must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline required reporting/monitoring requirements. These terms and conditions are nondiscretionary.

1. No construction, earth-moving, or placement of materials or equipment will occur on the beach between June 1 and September 15 of any year.
2. No maintenance of groins between June 1 and September 15 of any year.
3. No ground disturbance or use of vehicles or heavy equipment will occur on the beach outside of the applicant's property boundaries.
4. No refueling of equipment or vehicles will occur on the beach.

5. No use of pesticides on the beach.
6. The applicant is required to notify the Service before initiation of construction and upon completion of the project at the address given below. All additional information to be sent to the Service should be sent to the following address:

Virginia Field Office
U.S. Fish and Wildlife Service
6669 Short Lane
Gloucester, Virginia 23061
Phone (804) 693-6694
Fax (804) 693-9032

7. Pursuant to 50 CFR 402.14(i)(3), in order to monitor the impacts of incidental take, the federal agency or the applicant must report the impact of the action on the species to the Service. To meet this requirement, tiger beetle inventories (adult and larval) must be conducted. The survey area shall extend the length of the applicant's property, for a total of 150 feet. Surveys shall be performed by a Service-approved surveyor. A list of pre-approved tiger beetle surveyors is enclosed. The applicant is not required to select someone from this list, but if someone else is selected, the proposed surveyor's qualifications must be sent to the Service for review at least 60 days prior to the survey. Since the anticipated impacts are not expected in the short term, surveys shall be conducted during the following years: 2004, 2006, 2008, and 2010. In addition, a pre-construction larval survey shall be conducted during October 2002.

Adult tiger beetles shall be inventoried on warm, sunny days between July 1 and July 25. The total number of adults observed on the applicant's beach will be recorded. Larval inventories shall be conducted between October 10 and 30 during low tide on cool and/or cloudy days. The total number of larval burrows observed on the applicant's beach will be recorded. An attempt to identify instar stage of larvae shall be made. The inventories shall be conducted in sufficient detail to assess the value of the beach habitat to the tiger beetle population and shall include detailed descriptions of the beach width and profile. The Corps or the applicant shall submit to the Service a report documenting the surveyor and dates, methods, and results of the inventories and beach measurements within 30 days following completion of the larval inventory each year. Capture and/or collection of beetles is not authorized under this requirement of the incidental take statement, except as permitted by appropriate federal and state regulatory agencies.

As part of the monitoring, photographs shall be taken to document changes to the beach over time. Photographs, at least 4 x 6 inches in size, shall be taken from five different fixed points in the action area. These photographs shall be included in the monitoring reports.

8. Care must be taken in handling any dead specimens of northeastern beach tiger beetle that are found in the project area to preserve biological material in the best possible state. In conjunction with the preservation of any dead specimens, the finder has the responsibility to ensure that evidence intrinsic to determining the cause of death of the specimen is not unnecessarily disturbed. The finding of dead specimens does not imply enforcement proceedings pursuant to the ESA. The reporting of dead specimens is required to enable the Service to determine if take is reached or exceeded and to ensure that the terms and conditions are appropriate and effective. Upon locating a dead specimen, notify the Service at the address provided above.

The Service believes that individuals within the action area (7,245 square feet) will be incidentally taken as a result of the proposed action. Due to the variability in numbers of adults and larvae from year to year, it is difficult to quantify incidental take; however, the Service anticipates a reduction in the numbers of adults and larvae using the beach zone. The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed action. If, during the course of the action, this level of incidental take is exceeded, such incidental take represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures. The Corps must immediately provide an explanation of the causes of the take, and review with the Service the need for possible modification of the reasonable and prudent measures and the terms and conditions.

IV. CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the ESA directs federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to further minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

Due to the amount of shoreline stabilization/alteration taking place along the shoreline of the Chesapeake Bay, the Service recommends that compensation for adverse impacts to and loss of northeastern beach tiger beetle habitat be undertaken. As the Corps continues to issue permits for shoreline alteration, the amount of habitat available for the continued existence of this species is decreasing. For recovery and delisting of the tiger beetle within the Chesapeake Bay area of Maryland and Virginia, at least 26 populations must be permanently protected at extant sites (U.S. Fish and Wildlife Service 1994). In Virginia, 4 large (>500 adults) populations and 4 other (100 to 499 adults) populations must be protected on the Eastern Shore; 3 large populations and 3 others must be protected on the western shore of the Chesapeake Bay north of the Rappahannock River; and 3 large populations and 3 others must be protected on the western shore of the Bay south of the Rappahannock River. Presently, there are 6 large (2 protected) and 6 other (3 protected) populations on the Eastern Shore; 9 large (2 protected) and 12 (1 protected) others on the western shore north of

the Rappahannock; and 6 large (2 protected) and 6 (1 protected) others on the western shore south of the Rappahannock.

The Service is concerned that in the future, projects proposed in areas critical to the continued existence of the tiger beetle may result in jeopardy to the species. Therefore, the Service recommends that the Corps require compensation for this project. Alteration of tiger beetle sites that support more than 500 adult beetles should be compensated at a ratio of 3:1. Areas that support less than 500 adult beetles should be compensated at a ratio of 2:1. As the Service receives additional information on the location and status of tiger beetles, the relative importance of a given tiger beetle site may change.

Because the proposed project would be located within a site supporting more than 500 adult tiger beetles, compensation at an areal replacement ratio of 3:1 is recommended. That is, 225 linear feet of shoreline with an appropriate upland buffer should be permanently protected via a permanent conservation easement. The Service will be glad to work with the Corps and the applicant to locate and preserve such an area.

For the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

V. REINITIATION NOTICE

This concludes formal consultation on the action(s) outlined in the request. As provided in 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

The Service appreciates this opportunity to work with the Corps in fulfilling our mutual responsibilities under the ESA. If you have any questions, please contact Jolie Harrison of this office at (804) 693-6694, extension 208.

Sincerely,

Karen L. Mayne
Supervisor
Virginia Field Office

Enclosures

LITERATURE CITED

Hill, L. 2002. Personal Communication. Shoreline Erosion Advisory Service, Virginia Department of Conservation and Recreation, Richmond, VA.

Knisley, C.B. 2001. A survey of the northeastern beach tiger beetle (*Cicindela dorsalis dorsalis*) along the western shoreline of the Chesapeake Bay, 2001. Report to the U.S. Fish and Wildlife Service, Gloucester, VA.

U.S. Fish and Wildlife Service. 1994. Northeastern beach tiger beetle (*Cicindela dorsalis dorsalis* Say) recovery plan. Hadley, MA. 60 pp.

bcc: Program Supervisor-ES-South, Region 5 (Jeff Underwood)
Endangered Species Coordinator, Region 5 (Paul Nickerson)
FWS, New Jersey field Office (Annette Scherer)
FWS, New England Field Office (Susi von Oettingen)
FWS, Long Island Field Office (Steve Mars)
FWS, CBFO (Mary Ratnaswamy)
Law Enforcement, Richmond, VA (Rick Perry)
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(JHarrison: 5-17-01)